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By the book University names new top librarian Page 6 Enhancing the classroom 2013 TLEF recipients announced Page 9

Leading the sustainability charge

Office of Sustainability announces leadership award winner

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## U of A named greenest employer for fifth straight year

Jamie Hanlon

hat a way to celebrate Earth Day: for the fifth year in a row the University of Alberta was named one of Canada's greenest employers.

The award was announced April 22 by Mediacorp Canada Inc. a specialty publisher of employment-related periodicals that sponsors other employer awards such as Canada's Top 100 Employers. According to the Mediacorp website, the green award recognizes employers that "lead the nation in creating a culture of environmental awareness in their organization.' Last year, the University of Alberta was one of six post-secondary institutions in Canada to win.



Old Arts Building

In this year's submission, the U of A's Office of Sustainability offered the ecoREPs program and greening efforts in the Faculty of Education as some of the initiatives undertaken on campus. Trina Innes, the office's director, says the award is one shared across the entire institution.

"This award is a reflection of all the great things that are happening on campus," she said. "Be it our human resources area, our facilities and operations or the projects that our employees are working on and participating in, it's a time for us all to celebrate

'We're proud to have received this award for the fifth year in a row."

## Silly Putty axe a laughing matter



John Nychka, seen here chopping pencils with a Silly Putty axe that was dipped in liquid nitrogen in advance of his FoT Spots presentation May 2, is a recipient of a 2013 Rutherford Award for Excellence in Undergraduate Teaching. See story page 3.

## Alberta counts on U of A water researchers

The University of Alberta's strength in water research was acknowledged today by the provincial government with funding for nine new research projects.



**Greg Goss** 

The U of A received half of the 18 grants the provincial agency Alberta Innovates made available in an open competition for research proposals. The \$10-million program aims to ensure Alberta

has safe and secure drinking water, healthy ecosystems and enough water to support a growing economy.

Biologist Greg Goss, executive director of the U of A Water Initiative, says the university's winning research proposals represent an array of specialties. "We have strength right across the board," said Goss. "From medicine and public health to engineering and agriculture, U of A researchers will look at water issues as diverse as swimmer's itch, wetland sustainability and forecasting Alberta's water future."

Goss says predicting the province's water future is a major undertaking.

'We already experience water shortages in parts of the province, and the pressure for more water is always there," said Goss. "We have to accommodate population growth, economic development and the undeniable effects of climate change.

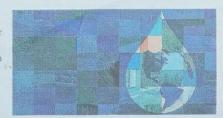
This look ahead at the entire province's water resources will be run by new U of A biology researcher Monireh Faramarzi, who arrives from Iran this summer.

Faramarzi has experience with large-scale research into the effects of climate change on water supplies. Faramarzi developed

predictive modeling tools for an in-depth look at Africa's water future, and she'll be giving Alberta its first-ever, border-to-border close-up examination.

Goss says this will give government policymakers an unprecedented opportunity to see and plan for Alberta's water 50 years from now

"Faramarzi's three-year study will assess the risks to water security and quality brought on by changing climate conditions," said Goss. "It will be a vital tool for bringing about preemptive change to land use practices, linking population growth with local water supplies and ensuring water is available for sustained economic growth."







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## folio

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## President encourages campus to come together

Bryan Alary

**√**he University of Alberta is "united in purpose" to compete with the best public universities in the world and deliver excellence across the institution in the face of an ongoing budget crisis, said President Indira Samarasekera.

During a campus forum April 19, Samarasekera provided an update on the university's fiscal situation, including the 2013-14 budget, meetings with post-secondary presidents and government officials, and most recently a board of governors' retreat. She said she has new marching orders from the board to create a change agenda to help cope with the budget realities, remain a strong partner in Campus Alberta and emerge as a stronger institution in the future.

"What does this mean for the U of A?" she said. "It means the board expects this university to come together-and I can't emphasize that more—with thoughtful, visionary solutions, just as the board has come together to create a thoughtful visionary statement to guide us.

The U of A faces a \$67-million funding shortfall for 2013-14 due to a \$43-million cut to the university's operating grant, the loss of a promised two per cent increase and an ongoing structural deficit.

Samarasekera said the university will not be able to correct a funding gap that large in one budgetary year and is working on a three-year solution to balance the books in 2015-16. The budget for the 2013-14 year includes 1.5 per cent across-theboard cuts to faculties and units.



President Indira Samarasekera

three per cent cuts to vice-president portfolios and a planned 25 per cent cut to travel expenses. In addition, many senior administrators are voluntarily taking a five-day leave, equivalent to a 1.92 per cent cut

She said the university is targeting a further \$25 million in savings this year by reducing evergreening and matching funding for IT equipment, reducing dollars for library collections, and finding alternate funding sources other than operating dollars.

Samarasekera recognized these changes and other future changes will have a direct impact on the campus community. Layoffs have already started and will continue over the next six months.

"Some of the things we do over these next weeks or months will be difficult. Frankly, some will be painful," she said. "In everything we do, we will need to make the decisions with the goal of excellence in mind."

Samarasekera said the university is looking to achieve 20 per cent of the net budget savings this year, followed by 40 per cent in each of 2014-15 and 2015-16. What that means for next year is still unknown, she said.

Samarasekera pledged that she is committed to reinforcing the value of post-secondary education funding with the Alberta government, a common goal of all 26 presidents within Campus Alberta. The presidents will meet regularly with each other, students and government on common issues, such as

drafting letters of expectation—now memorandums of understandingand the need for reinvestment for Campus Alberta.

During the question-and-answer session, she was quizzed on a number of topics, including a letter from Enterprise and Advanced Education Minister Thomas Lukaszuk to all 26 post-secondary boards, calling for fiscal restraint and three years of wage freezes.

Samarasekera said she was disappointed the letter was made public before she had time to discuss its contents with faculty and staff associations on campus, but assured the audience that the university will honour existing contracts.

**L** In everything we do, we will need to make the decisions with the goal of excellence in mind."

Indira Samarasekera

"We can't function if we don't honour what we've agreed to," she said, noting the acting provost and the vice-president of finance will reach out to those unions and discuss what this letter means in the future and how the university will ensure it remains competitive.

At the end of the forum. Samarasekera encouraged all faculty, students and staff to leave on a note of optimism and to encourage Alberta's potential for an even stronger post-secondary system.

"Let's all go forward with the determination to speak to our stakeholders, whether they be public, whether they be our MLAs, whether they be government officials, whether they be cabinet ministers, about the incredible importance of not having us go backward in a province that should be able not just to reverse the \$145-million cut, but to invest," she said.

"I ask all of you to be ambassadors for that cause and for all of us to stand united and find a way forward in this year."

Video of the forum is available at the Change@UAlberta.ca website.

## Clearing up some myths

Indira Samarasekera President and Vice-Chancellor

√his morning I participated in the University of Alberta Senate plenary session. The Senate and I discussed the many challenges the university community is facing. I have asked the

Senators for their help, especially in dispelling a few of the myths which are currently circulating. I've since

the open door

been asked to share my thoughts more broadly, so that others can use them in conversations with their friends and neighbours. Here they are:

Myth 1: We do a bad job of transferring students.

This is completely unfounded. Our transfer program is the envy of schools across the continent. To date, the University of Alberta has negotiated more than 5,200 transfer agreements with its Campus Alberta partners, enabling more than 27,000 students to move from other Campus Alberta institutions to the U of A. More than one in four U of A students is a transfer student.

The Alberta Council on Admissions and Transfer (ACAT) surveyed students in 2010, and 90 per cent indicated they were satisfied that they got the credits they were due when they transferred.

### Myth 2: We are inefficient

Untrue.

The people who work in administration are responsible for much of the essential day-to-day functioning of the university: research services, audit services, the registrar, risk management, payroll, human resources, animal care, libraries and much more. With these functions handled in administration, academic staff are able to focus on delivering on the core research and teaching activities of the university. Our administrative costs are monitored by the auditor general who states that administration should be at 5 per cent of overall expenses. We are at 3.5 per cent. Even so, we are constantly seeking efficiencies, and will continue to do so.

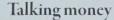
Myth 3: We receive too much funding from government

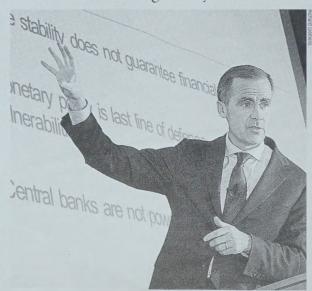
Compared to top publicly funded research intensive universities in the US, such as UC Berkeley, we receive \$9000 less per year per student. I would suggest that given that Alberta is the richest province in Canada, with the highest disposable income and the highest employment rate, we should expect to have the best funding for universities.

Truth: The real problem facing Alberta students is access

We have the lowest post-secondary participation rate in the country. In 2011, 6,000 qualified students could not find a place in Alberta's post-secondary system. This is a significant problem, because Alberta needs an educated population. We know from past experience that cutting education is a mistake that cannot be easily undone. Countries like China, India, and Brazil are making huge investments in post-secondary education. Given the rise of such new competition, we need access to more funding so we can increase our enrollment and prepare Alberta for the future

At the plenary session today, I reminded the Senators of our motto: Quaecumque vera or "whatsoever things are true." Let us work together to tell those things which we know are true about the University of Alberta and the critical contribution we are making to Alberta.





Mark Carney, governor of the Bank of Canada, dropped by the U of A May 1 to deliver the Eric J. Hanson Memorial Lecture on the future of monetary policy.

## Recipient of Rutherford teaching award keeps learning light

Bev Betkowski

A little Silly Putty goes a long way. Just ask University of Alberta professor John Nychka, who uses the goo—and a lighthearted assortment of other everyday knick-knacks—to teach his materials engineering students about what really matters—keeping people safe.

What I enjoy about teaching here is the great support we get for taking risks."

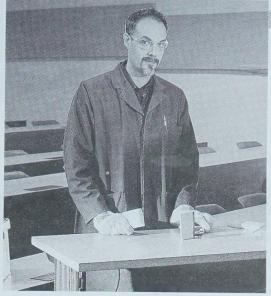
John Nychka

Since 2010 Nychka, an associate professor in the Department of Chemical and Materials Engineering, has been assigning his students small metal boxes filled with mechanical pencils, paper clips, lighters and magnets—and an egg of playtime putty—and challenging his classes to solve structural problems.

The design lessons they learn while tinkering get the students thinking about what Nychka sees as the "human factor' and how it matters in their future professional work as they choose safe materials for applications ranging from bridges and office towers to pumps and pipes.

"By making learning accessible, visual and unexpected, I see students get emotionally invested, and that investment is crucial for shifting responsibility and enabling engaged learning."

Nychka, who earned his undergraduate degree at the U of A and began teaching here in 2007, is a recipient of the university's 2013 Rutherford Award for Excellence in



John Nychka is a recipient of a 2013 Rutherford Award for Excellence in Undergraduate Teaching.

undergraduate teaching, to share how they keep their students engaged and excited in class.

Nychka appreciates that the U of A fosters freedom to teach creatively.

"What I enjoy about teaching here is the great support we get for taking risks. Sometimes it goes well, sometimes it doesn't, but people here believe in what we as teachers are trying to do," Nychka said, who participated in FoT Spots May 2.

## 2013 Awards for Teaching Excellence recipients

Rutherford Awards for Excellence in Undergraduate Teaching

Alex Brown, Faculty of Science Christine Hughes, Faculty of Pharmacy and Pharmaceutical Sciences John Nychka, Faculty of Engineering Carla Peck, Faculty of Education

William Hardy Alexander Awards for Excellence in Undergraduate Teaching

Kristine Nutting, Augustana Faculty Enver Osmanagic, Faculty of Science

Provost's Awards for Early Achievement of Excellence in Undergraduate Teaching

Cheryl Poth, Faulty of Education Carrie Smith-Prei, Faculty of Arts Martin Zuidhof, Faculty of Agricultural, Life and Environmental Sciences

**Teaching Unit Award** 

Field Studies in Tropical Ecology (Augustana Faculty) Doris Audet, Augustana Faculty David G. Larson, Augustana Faculty

Award for Excellence in Graduate Teaching Carol Boliek, Faculty of Rehabilitation Medicine Robert Campbell, Faculty of Science Jerrold Kachur, Faculty of Education

## New vice-provost and chief librarian drawn by U of A's leadership profile

Geoff McMaster

In recent years, Gerald Beasley has been a star librarian at Concordia University in Montreal and Columbia University in New York, two of the most exciting, culturally vibrant cities in North America. Among his many accomplishments, he helped shape Concordia's academic mission and assisted in planning extensive renovations of the university's libraries, set to begin later this year.

With all that going on, what attracts him to Edmonton and his new post as the University of Alberta's vice-provost and chief librarian? To start with, he says, the U of A is regarded nationally as a beacon for championing post-secondary

"Under the inspired leadership of Ernie Ingles, the U of A has really promoted and developed its library system in a way that is unique within Canada," says Beasley. "Of all the places you could mention, the U of A has shown real leadership in supporting its libraries, and that's very attractive.

"As chief librarian and vice-provost, I'm being offered a much bigger job with a bigger responsibility and greater opportunity to contribute to new challenges on a national and international platform."

Beginning in August, Beasley will be responsible for the U of A's library holdings at nine locations, as well as for its museums and collections, university bookstores, university archives, and the U of A Press.

"Mr. Beasley has demonstrated throughout his career that he is a deep and strategic thinker, expert in listening and wholeheartedly devoted to the interests of his institution and his colleagues," says Acting Provost Martin Ferguson-Pell.

"While committed to innovation and the promotion of technology and creativity, he also sustains a respect for traditional values."



Gerald Beasley

In his role as vice-provost, which includes membership on the deans' council, Beasley will also contribute to the U of A's strategic vision while overseeing a staff of more than 400.

"I know it's a wonderful staff, and I'm very excited to know I'm going to be working with such a strong team," he says. His vision includes "providing an outstanding service and experience for students," and that means constantly moving with the times—adapting to ever-evolving technology, to the changing nature of research and to the more immediate challenge of fiscal constraints.

It also means accepting a degree of risk in the constant search for innovation, he adds.

Beasley was born and raised in Amersham, a small town in Buckinghamshire, England. He was the first in his family to attend university, studying English language and literature at Oxford and falling in love with that university's storied libraries, especially the

Bodleian, where he worked for a year Centre fof Architecture in Montreal after graduating. Where he served tee years, the last

"Thue really sectled me in my career choice," he says. "I wanted to find the kind of work where I would be helping other peoply to enjoy the things I was enjoying.

"There was also the pure love of the environment, and what I believe libraries achieve in the world today—the preservation of cultural heritage and helping people get the information they need to be good citizens."

Beasley's first job after graduating in Library Studies in 1985 was at the Royal Institute of British Architects, where he specialized in rare bookssbefore moving on to the Wellcome Institutee for the History of Medicine

In 1994 he emigrated to Canada, taking on a position at the Canadian

Centre fof Architecture in Montreal where he served tee years, the last 2004 and 2008, he headed up the Avery Architectural and Fine Arts Library at Columbia University, before returning to Montreal to lead Concordia University Libraries.

At Concordia he introduced or improved several notable library services, including enhanced study space and 24-hour access to both campus libraries, free laptop and tablet loans, a mobile-friendly library website and a new course reserves service. Throughout his career, he's also amassed an impressive list of publications and presentations, mostly on rare books and architectural collections.

On the personal side, Beasley says, "I consider myself to be a hard worker who spends the rest of my

time with family." He has two boys, aged nine and 14, and looks forward Edmonton's river valley.

He says he'll be scouting out housing and schools for his kids over the next couple of months, so you may catch a glimpse of him before he officially arrives on campus August 1.

could mention, the
U of A has shown real
leadership in supporting
its libraries, and that's
very attractive."

Gerald Beasley

## Right on schedule



Facilities and Operations hosted a construction tour of its Pinecrest House May 1. The project is scheduled to be open in time for September move in.

## Volunteer challenge will enable alumni to 'do great things'

fter 15 years of working with at-risk youth, University of Alberta alumna Sandra Bromley has witnessed firsthand how volunteering makes a difference in

Bromley is an artist and co-founder of iHuman Youth Society, which uses the arts as a tool to foster talent and hope in youth who would otherwise fall through the cracks of homelessness, abuse or addiction. As iHuman's volunteer board chair, she has seen kids who have never been told they are talented—or even valuable—find a spark when someone takes an interest and provides encouragement.

"People don't understand the kids, they don't understand their potential, they don't understand the challenges. But these kids have amazing personalities, amazing potential and ways to give back," says Bromley ('79 BFA). "When they come here and work with our staff, all of a sudden these kids have a family and a way forward."

Every day, thousands of U of A alumni like Bromley do great things for their



Sandra Bromley, U of A alumna, artist and co-founder of iHuman Youth Society, has seen the difference

communities in the spirit of volunteerism. The University of Alberta Alumni Association wants to hear about those efforts, which is why they're putting out a challenge to engage all 250,000 alumni worldwide about the benefits of volunteerism.

Launched April 21 in conjunction with National Volunteer Week, the U of A Alumni Volunteer Challenge aims to record 2,015

volunteer experiences by the association's 100th anniversary in 2015.

'We have always known that U of A alumni feel very strongly about the importance of bringing their time and talents to bear in the service of their communities, the province and the global community," says Jane Halford, president of the

Throughout the challenge, the association will co-ordinate and facilitate U of A alumni volunteer efforts, including some already planned for Edmonton such as a River Valley Cleanup (June 1), Habitat for Humanity build (July 12 and 13) and events during the Edmonton International Fringe Theatre Festival in August. Volunteers will receive Do Great Things T-shirts—reinforcing the value of U of A alumni working for community.

"The Alumni Volunteer Challenge is our chance to demonstrate to everyone the impact that alumni can have when they come together. That's why the theme of the campaign is Do Great Things," Halford says.

In addition to her role with iHuman, Bromley volunteers her time with several arts organizations and on the U of A Art Acquisitions Committee. She also founded Bo Girls Group, a small charity that provides training for young girls and women affected by war in Sierra Leone. Giving her time to help others is not work. It's a part of her life. But more important, it's part of a far bigger picture,

"Volunteering creates a healthier, stronger community and it's good for everybody."

## Making every day Earth Day at the U of A

The first Earth Day on April 22, 1970, symbolized a cultural turning point as thousands of passionate students gathered to demonstrate their support for environmental issues, changing the game for scientists and citizens alike.

University of Alberta professors and students have taken up the complex challenges these issues pose—challenges that de mand scientific teamwork across disciplines, strong community engagement and a shared sense of responsibility. Working side by side, they are helping answer questions about what changes in the environment mean for the future of our planet.

Arturo Sanchez-Azofeifa, professor in the Department of Earth and Atmospheric Sciences, has his eye on the big picture of climate change. As part of his work in the U of A's Centre for Earth Observation Sciences, his research group is actively monitoring environmental changes around the world.

Cassidy Rankine, a PhD student in Sanchez-Azofeifa's research group, describes their work as hitting the sweet spot between the technological revolution and ecological sciences to improve our ability to adapt and respond to rapid environmental changes.

"Our lab uses satellite and airborne imagery to understand land use and land cover changes in relation to global ecology, across the Canadian Arctic to the American tropics,"

A native Albertan, Rankine started working on environmental monitoring research as an undergrad, doing field work in Mexico, Costa Rica, Panama, Brazil, and Argentina installing meteorological sensors. His doctoral research is taking advantage of emerging wireless sensor network technology and advanced optical remote sensing techniques for environmental monitoring. During his studies at the U of A, he's also learned a lot about partnering up to get things done. He works closely with local communities to educate and empower them to manage their own environmental stewardship programs. He also collaborates with other research groups on campus in computing science and engineering, with industry partners at IBM and Microsoft Research, and with the Smithsonian Tropical

Environmental sociologist Emily Huddart-Kennedy is looking at how household income affects greenhouse gas emissions—and what she has found could help governments make the most of policies aimed at reducing those emissions

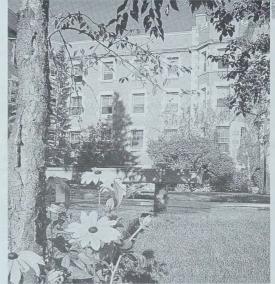
Huddart-Kennedy, a researcher with the Department of Resource Economics and Environmental Sociology, recently discovered that the wealthiest Alberta households emitted the most greenhouse gases—more than twice as much per year as the lowest-income households. The point for policy-makers, she says, is that the higher-income households also have more control over their carbon footprint.

Huddart-Kennedy says her findings suggest governments should factor in income disparity as they make policies intended to help households get greener. "The solution in Alberta would be to push renewables, create incentives to build smaller homes and create disincentives to build low-density, auto-dependent suburbs," she says. "Municipal governments can think about things like higher vehicle taxes for larger and multiple vehicles, and programs to reduce air travel."

Students in Erin Bayne's undergraduate conservation biology course also took their work to the streets.

For their study on bird deaths in urban environments, they enlisted an army of Edmonton-area homeowners as research assistants who helped them chronicle bird fatalities in their neighbourhoods. Their findings may help homeowners take practical steps to prevent birds from dying in collisions with

Bayne, a professor in the Department of Biological Sciences, says the project also equipped his students with communications planning and community engagement skills



they can use for any future project that takes an army—or a village-to pull together.

A group of science students, who just completed the first run of a course called Science 299, Science Citizenship, are also learning to hit the ground running as environmental change agents.

The course throws students into the fray to apply their talents to real-world issues by taking a global problem and scaling it to a local solution. The first cohort addressed issues like electronic recycling, water scarcity and grey-water recycling, and chronic disease prevention, says instructor Glenn Loppnow

"Some students have had some very personal things happen to them that they want to try to and address in a way that benefits not only people that are close to them, but others," says Loppnow.

## Child patient volunteers enjoy second annual Mini Docs camp

Raquel Maurier

√he Faculty of Medicine & Dentistry held its second annual Mini Docs camp to thank children who volunteer as patients for U of A medical students.

The day-long camp was held in the Zeidler Ledcor building with 34 children rotating through a series of stations focusing on the cardiovascular, respiratory, gastrointestinal and musculoskeletal systems, vital signs and special senses

At each station, they learned about that body system, how to keep it

healthy and how to treat the system if

The final station was triage, where the new "mini doctor: pulled together everything they had learned and treated a mock patient. As they rotated through each station, the children were also given scrubs or masks, so that by the time they reached triage they looked like real doctors.

Juliet, 11, said she enjoyed volunteering, and the camp itself, and would recommend the experience to

"I really liked how there were so many stations, they taught me so

much and answered any questions I had. They showed us lots of x-rays and I really liked the pen that looks like a needle. Dealing with the mock patient was fun because it really helped me remember everything I had learned and come up with a real plan to help a patient."

Second-year medical student Fangwei Liu said the camp is a great way to thank the children and their families who take time out of their busy schedules to volunteer as patients to benefit physicians of

"Mini Docs gave us the opportunity to show the kids our appreciation of their time and patience," said Liu.

Phil Quon, one of the two medical students who co-ordinated Mini Docs, said volunteers' enthusiasm helped make the event a huge success. "The children had a blast and they really impressed me with how much they knew," he said. "My favorite part was watching them utilize their newly learned skills while treating the fake patient in the triage station.

As a volunteer patient, each child came to the U of A with a parent for a two-hour visit.

During that time, medical students would take a patient history



Participants in the Mini Docs camp take a look at a heart model.

and then do a physical exam with the

"The patient I had told us during the patient exam that she was volunteering so that she can help us be good doctors, but also because she wants to be a pediatrician herself," said Krista Lai, a second-year medical student.

## Students to tackle energy, water challenges in far North

Richard Cairney

Three University of Alberta students will spend their summer in the far North as part of a new major initiative to work with northern and remote communities.

Called Engage North, the project begins this year by sending students to work in Pangnirtung, an Inuit community of about 1,400 in Nunavut. The students will work for the hamlet on drainage planning and energy efficiency issues, with support from engineering professionals who will serve as mentors.

The students will be working in Pangnirtung from May 15 to Aug. 23.

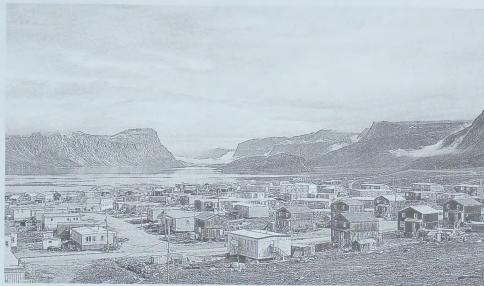
Heidi Johnson, a third-year mechanical engineering student, says she has been on rewarding coop placements in southern Alberta, but had hopes of working in the North—she imagined applying for co-op positions in industry or the resource sector. Instead, she is bound for Pangnirtung, where she and environmental engineering student Stephanie Lettner will be working on an energy audit to help determine ways of improving energy efficiency and reducing costs.

"A large portion of the hamlet's budget goes toward energy costsheating and electricity. Because all of their power comes from diesel generators, any sort of efficiencies in heating or electricity will make a huge difference and pay off quickly because diesel is so expensive to begin with," Johnson said.

Johnson and Lettner will be looking at energy flow through the town, assessing the efficiency of appliances and fixtures, and searching for areas of heat loss. They will be coming up with remedies wherever possible.

'All of their diesel is shipped up there once a year," said Lettner, 'so it really is a limited resource. We might be coming up with suggestions that are pretty straightforward, like changing from incandescent to LED lighting."

Third-year civil engineering student Keita Hill will be investigating drainage issues in the hamlet. Pangnirtung is located on the shore of Pangnirtung Fjord, at the base of a mountainous region. In 2009, a flood caused by unusually rapid melting combined



Pangnirtung, a hamlet of about 1,400 people in Nunavut, is the centre of a new U of A-based project called Engage North.

## Northern community energized by relationship with U of A

A partnership between the University of Alberta and the northern community of Pangnirtung opens doors benefiting both communities, according to the hamlet's top administrator.

Ron Mongeau, senior administrative officer for Pangnirtung, says connections between the community and the university can only have positive outcomes.

Municipal governance in northern communities is a relatively new exercise. Pangnirtung has been self-governing for just 41 years, and is the oldest municipal government in the North.

"But as is the case with most municipal governments, we are asked to do more every year with less funding," said Mongeau. "This creates huge capacity issues within the municipality. Even though we are a large community, I don't have a budget to hire a municipal engineer. I do not have full-time engineer on staff—we are lacking the kind of expertise that is generally available to southern municipalities.

"So the opportunity to develop a relationship with the University of Alberta, to look at some critical issues in our community and find ways to address them using the skills of these senior students who have access to large amounts of information and technology, and who have the support of knowledgeable advisors, is amazing."

Mongeau and the hamlet foreman talked about the kind of expertise that could be available to them, then made a

list of areas that need urgent help. The two priorities are developing a comprehensive drainage plan for the town and

conducting an energy audit to cut down on energy costs, and using the savings on social programming.

"We have areas of the town that flood every year at runoff time," Mongeau said. "Because we lack engineering expertise, it has been difficult coming up with a comprehensive drainage plan. We've never been able to look at drainage holistically and come up with a two- or three-year plan that would cover the entire municipality."

Mongeau says the North is changing rapidly, and his community needs help to reach its full potential. Climate change is opening the North up to massive resource developments and Mongeau is looking far into the future when he talks about Engage North.

He's hoping to explore renewable energy such as solar power, which would allow the town to keep its public swimming pool open two months longer every year; he would love to see the town harvest the constantly blowing winds for power

generation and envisions a day when the active tides of Pangnirtung Fjord are also used to generate power.

"I am committed to moving this town down a greener path," he said. "As climate change opens up the North, we see more and more movement of goods and more people coming here to look at development, and we will be better pos itioned to handle that. We are making connections, we are opening doors to vast amounts of information and support and making that connection between southern and northern Canada.

with rainfalls caused the collapse of two bridges that cross the Duval River. and parts of the hamlet experience flooding every spring, according to Pangnirtung's senior administrative officer,

Working with Mongeau and his staff, Hill will gather information on drainage grades and help develop a flood prevention plan.

"The opportunity to develop a relationship with the University of Alberta, to look at some critical issues in our community and find ways to address them using the skills of these senior students who have access to large amounts of information and technology, and who have the support of knowledgeable advisors, is amazing," said Mongeau.

The three students are well aware that they are taking the first steps into what should become an enduring partnership that brings different cultures together.

"The program seems to be well designed in that we are learning to bridge what will certainly be a cultural divide," said Hill. "We

are building things that are technically engineering projects, but we are also building a long-term community partnership.

Engage North was established by mechanical engineering professors Sushanta Mitra and Larry Kostiuk with civil engineering graduate student Fraser Mah and fourthyear civil engineering student Tyler Heal. Mitra is the U of A lead on a five-year, \$30-million collaboration with India to develop new technologies to ensure health, safety and sustainability for rural and remote communities in both countries.

Called IC-IMPACTS, the collaboration is an ideal way to address some of the country's most vexing challenges. In Canada alone, for example, access to clean water is an enormous challenge, particularly in First Nations and

"We are working in partnerships with communities, and that is what I like about this initiative," said Mitra. "Engage North goes beyond the well-tested path of doing research, particularly in the engineering domain. It will help us connect with communities.

In its inaugural year, Engage North is taking baby steps. This year it is sending the three engineering students on placements. In subsequent years it is going to include students from disciplines as diverse as public health and agriculture. It will also expand to include universi ties across Canada—some of which have already expressed interest.

Caylie Gnyra, a member of the Engage North organizing committee, emphasizes that Engage North and the students are in a partnership.

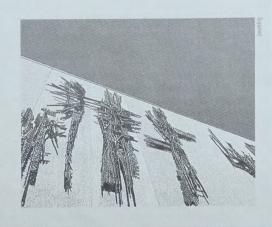
We are at a point where it's really important for the rest of the world to develop relationships with indigenous communities," she said. "We have all of this technology about sustainability but we can probably learn a lot about sustainability from the people who are living in one of the harshest environments in the world."

Doug Goss, U of A board chair, says the university is already a powerhouse in northern research, with internationally respected projects such as the Canadian Circumpolar Institute and the Circumpolar Library. Engage North, Goss says, adds an exciting new dimension to the univer sity's connection to northern and remote communities.

"When we talk about 'uplifting the whole people,' that doesn't end in Alberta," Goss said. "I continue to be astonished by the ties this university has all over the world and the differences we make." In

Are You a

Congratulations to Linda Harrison who won copy of Naming Edmonton: From Ada to Zoe, courtesy of the U of A Press as part of Folio's April 19 "Are You a Winner?" contest. Harrison identified the location of last issue's photo as the dining hall of the Lister Centre. Up for grabs is another wonderful Butterdome butter dish. To win it, simply identify where the object pictured is located and email your answer to folio@ualberta.ca by noon on Monday, May 13, and you will be entered into the draw.





on the Web www.folio.ualberta.ca

## Learning legalese outside the classroom

The University of Alberta has renewed its unwavering support of improving the classroom experience by an nouncing 10 new projects that will benefit from the university's Teaching and Learning Enhancement Fund.



Peter Sankoff

The fund, launched in 2006, is a key initiative in support of the U of A's Dare to Deliver vision document. The purpose of the fund is to support those engaged in teaching at the university, allowing them to improve their teaching skills, enhance their understanding of teaching and learning processes and provide teaching environments to optimize the

Faculty of Law professor Peter Sankoff has been awarded a \$22,547 TLEF grant from for his project entitled Core Concept Delivery Outside the Classroom: Adapting Lessons from the Khan Academy to University Instruction.

Sankoff's project is designed to help create a new way of helping students learn difficult legal concepts. Over the past three years, Sankoff has transformed his law of evidence classroom from a standard lecture format into one that focuses on dynamic problem solving and application of evidentiary principle. He says his experience showed that students who worked on evidence problems in this way developed a better

TLEF

understanding of the law and were more quickly able to apply it in challenging situations. However, he found his students often complained that they lacked a basic understanding of some of the more difficult evidentiary concepts before digging into the problems.

His solution to the problem drew upon the inspiration of The Khan Academy, a not-for-profit organization that makes short web-based classroom lessons available to anyone who wishes to learn. It uses modern software and touch-pad technology to create lessons with dynamic visuals that are both educational and entertaining. This year, for the first time, foundational law and explanation of basic concepts in Sankoff's class was not delivered through lectures. Instead, students prepared for class by watching short "capsules," or video podcasts that Sankoff himself created beforehand and

In addition to being available on demand, Sankoff says the capsules free up class time to focus on deeper learning objectives and allow the possibility of exploring additional topics that could never be reached before.

Sankoff says he will use his TLEF to explore the benefits of capsule use in greater detail, expand their utility within his classes, and prepare guidance for others who wish to pursue this method of teaching.

He says he hopes his project results will show that capsules have enormous potential as a means of delivering complex and often dense material as a supplementary teaching strategy, permitting more productive use of valuable

Sankoff adds initiatives like TLEF are absolutely essential to ensure that innovation in teaching remains a top priority in the university system—as it should be.

"If we are to keep up with the needs of today's student, faculty members need to be consistently reflecting on what constitutes good teaching and productive student engagement," he said. "It is great to know that the U of A supports research that explores the use of different types of pedagogy

## Other 2013-14 TLEF's

The Honors Academy of Arts and Science (\$56,500) Mikael Adolphson, Glen Loppnow, Richard Westerman

**Developing MOOC Teaching and Learning Objects for** Arts Courses (\$37,505)

Developing Interactive Online Lab Activities and an Online Course for LING 205, Phonetics (\$52,981) Benjamin Tucker, Karen Pollock

Developing a Computer-Based Assessment System to Support the Rapid Expansion of Online Teaching and Learning at the University of Alberta (\$50,521)

Mark Gierl, Osmar Zaiane, Tracy Hillier, Cheryl Poth, Ying Cui, Geoff Bostick, Mark Hall, Mary Roberts, Ken Cor, Hollis Lai

**Evaluating the Long-Term Student Outcomes of CSL** Participation (\$40,856)

Alison Taylor, Mary Richards, Zane Hamm, John Simpson

**Assessment of Collaborator and Communicator** CanMEDS Competencies by Interprofessionals for Developmental Pediatric Trainees (\$23,492) Lyn Kathryn Sonnenberg, Lesley Wiart

The Use of Mobile Technology to Enhance Learning Through Online Communities of Practice Among Occupational Therapy Students in Edmonton and Calgary (\$111,010)

Lili Liu, Shaniff Esmail, Elizabeth Taylor, Eleni Stroulia, Sharla King

**Computer-Based Content Across the Mathematics** Curriculum (\$136,606)

Charles Doran, George Peschke, James Lewis, Terry Gannon,

Plagiarism Awareness, Prevention and Skill Building (\$53,300)

Brenda Leskiw, Stephen Kuntz, Glenda Baker

\*Various TLEF projects will featured in Folio throughout the year

and inventive teaching techniques, and rewards efforts to try and find new and ever more effective ways to educate and connect with our students."

## Exploring what it took to create the modern museum

reviously unknown details about spaces that hold strange and curious items are now revealed in a book by a University of Alberta researcher.

Lianne McTavish, professor in the Department of Art and Design at the U of A, spent nearly a decade studying the records of Canadian, American and European museums. The results of her research are detailed in the book, Defining the Modern Museum

The study, which took McTavish across Canada, the United States and Europe, challenges common ideas about Canadian museums and documents changes that explain how Canadians now connect with these institutions of regional and national identity.

McTavish says her text is also the first major study to explore women's contributions to building museums, especially natural history collections, across Canada.

She argues that, until now, there has been no record of the massive contributions women made to building some of Canada's most prestigious museums.

"Women were involved in building museums from the grassroots. From the 1850s on, women donated hundreds of objects to different museums, and they raised funds to help pay for buildings," she says.

Still, she says, few generalizations can be made about how the museums founded in the 19th century evolved. But popular museums, such as the New Brunswick Museum in Saint John-which dates back to 1842, making it Canada's oldest continuing public museum—share a

f If people understand that the museum is theirs. they can use the space how they wish, whatever that may be. Such an attitude would in many ways mark a return to the past."

Lianne McTavish

"Earlier museums were more personalized and spontaneous. The volunteer founders would host entertainment events which included singing, dancing, and eating inside the museum. And they would have lectures continually where they would pass around objects, allowing visitors to touch and interact with them," McTavish says.

Changes eventually came to many institutions when Canadians associated with the Carnegie

Corporation began trying to professionalize Canadian museums.

"It was an official mandate of the Carnegie Corporation to professionalize Canadian museums, to hire people who had university degrees and were focused on research and the production of knowledge, instead of being primarily devoted to outreach or sociability," says McTavish.

Although she notes that this process sometimes displaced volunteers from those institutions, McTavish challenges the contention by some historians that it displaced the gender and class makeup of the community volunteers who had built some of Canada's museums, and that by the 1920s, these so-called amateurs had been driven out by wealthy patrons who favoured replacing them with trained professionals.

"That is simplistic and inaccurate," McTavish says. "The middle-class and wealthy patrons of museums never really managed to erase and replace the earlier history of museums, and there were variances across different kinds of institutions.

But the status of the curator did change over time, becoming more elevated. During the 19th century, curators were tasked with everything from cleaning to fixing the roof, McTavish says.

"Now a professional curator is expected to embody the museum



Lianne McTavish wrote "Defining the Modern Museum," which details the evolution of

and perform a museum identity in a way that's linked with class and gender. There's a hierarchy in place, which did not exist during the 19th century; it has all been negotiated," she claims.

Perhaps ironically, the elevated status of the curator has occurred at the same time as a general decline in the status of visual learning. McTavish contends that some critics of contemporary museums are anxious about the possible link between looking and "mindless" entertainment.

"In the late 19th century, it was understood that though it would be good to have someone talk about a museum object or specimen, just looking at it was, in and of itself, a learning activity. Now there is a certain anxiety about distinguishing entertainment from education. which did not really exist in early Canadian museums.

McTavish notes that the era of professionalization did much good, resulting in improved storage facilities and better preservation of valuable objects—and she says some museums are now heading back to the old days of more community involvement.

"Some people feel that museums are not for them; they feel excluded. Many institutions are now trying to overcome an elitist image," she says. "If people understand that the museum is theirs, they can use the space how they wish, whatever that

"Such an attitude would in many ways mark a return to the past." In

## Fish was on the menu for flying dinosaur

niversity of Alberta-led research reveals that Microraptor, a small flying dinosaur, was a complete hunter—able to swoop down and pick up fish as well as its previously known prey of birds and tree-dwelling mammals.

Scott Persons, a paleontology graduate student at the U of A, says new evidence of Microraptor's

hunting ability came from fossilized remains in China. "We were very fortunate that this Microraptor was found in volcanic ash and its stomach content of fish was

Before this discovery, paleontologists believed microraptors, which were about the size of a modern-day hawk, lived in trees where they preyed exclusively on small birds and mammals about the size of squirrels.



Artist's conception of a Microraptor eating a fish it has caught.

operated in varied terrain and had a varied diet," said Persons. "It took advantage of a variety of prey in the wet, forested environment that was China during the early Cretaceous period, 120 million years ago.

Further analysis of the fossil revealed that its teeth were adapted to catching slippery, wiggling prey like fish. Dinosaur researchers have established that most meat-eaters had teeth with serrations on both sides, which helped the predator saw through meat like a steak knife.

But the Microraptor's teeth were serrated on just one side, and were angled forward.

"Microraptor seems adapted to impale fish on its teeth. With reduced serrations, the prey wouldn't tear itself apart while it struggled," said Persons. "Microraptor could simply raise its head back; the fish would slip off the teeth and be swallowed whole, no fuss, no muss."

Persons likens the Microraptor's wing configuration to that of a biplane. "It had long feathers on its forearms, hind legs and tail," said Persons. "It was capable of short, controlled flights.

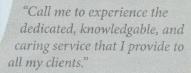
This is the first evidence of a flying raptor, a member of the dromaeosaur family of dinosaurs, successfully preying on fish.

The research was published April 22 in the journal Evolution.

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## Small mammal, caterpillar form food co-op in North

Brian Murphy

ho would have thought that two very different species, a small insect and a furry alpine mammal, would develop a shared food arrangement in the far North?

University of Alberta researchers were certainly surprised when they discovered the unusual response of pikas to patches of vegetation that had previously been grazed on by caterpillars from a species normally found in the high Arctic.

U of A biology researcher Isabel C. Barrio analyzed how two herbivores, caterpillars and pikas, competed for scarce vegetation in alpine areas of the southwest Yukon. The caterpillars come out of their winter cocoons and start consuming vegetation soon after the snow melts in June. Weeks later, the pika starts gathering and storing food in its winter den. For the experiment, Barrio altered the numbers of caterpillars grazing on small plots of land surrounding pika dens.

What we found was that the pikas preferred the patches first grazed on by caterpillars," said Barrio. "We think the caterpillar's waste acted as a natural fertilizer, making the vegetation richer and more attractive to the pika.

U of A biology professor David Hik, who supervised the research, says the results are the opposite of what the team expected to find.

"Normally you'd expect that increased grazing by the caterpillars would have a negative effect on the pika, said Hik. "But the very territorial little pika actually preferred the vegetation first consumed by the caterpillars.'

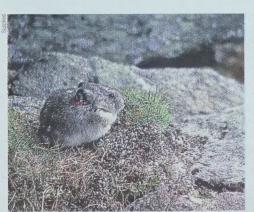
The researchers say it's highly unusual that two distant herbivore species—an insect in its larval stage and a mammal—react positively to one another when it comes to the all-consuming survival issue of finding food.

These caterpillars stay in their crawling larval stage for up to 14 years, sheltering in a cocoon during the long winters before finally becoming Arctic woolly bear moths for the final 24 hours of their lives.

The pika does not hibernate and gathers a food supply in its den. Its food-gathering territory surrounds the den and covers an area of around 700 square metres.

The researchers say they'll continue their work on the caterpillar-pika relationship to explore the long-term implications for increased insect populations and competition for scarce food resources in northern mountain

Barrio was the lead author on the collaborative research project, which was published April 24 in the journal Biology Letters.





U of A researchers discovered that the pika and the Arctic woolly bear caterpillar co

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## U of A researcher to head national transplant research program

Faculty of Medicine & Dentistry Staff

ori West, a medical researcher from the University of Alberta, has been tasked with leading Canada's new I transplant research program.

The announcement April 22 came as good news to the Radbourne family.

When Adelaide Radbourne was waiting for a heart transplant, her mother Chloe felt absolutely powerless. "It was honestly the most humbling experience of my life," she remembers with emotion. "To wonder every day whether your child was going to live, and to know that the only solution was to wait for another child to die.'

Adelaide received her heart transplant at the Stollery Children's Hospital at the age of six months. Today, she is a "busy, bossy, loving little girl" of almost four years—a preschooler, budding ballerina and soccer player.

The Radbournes must still travel from their Grande Prairie home to Edmonton every three months to meet with Adelaide's organ transplant team, and Adelaide will need immunosuppressant drugs for the rest of her life. But according to Chloe, it is a small price to pay for the miracle of her daughter's new heart. And she is optimistic that a new national transplant research program will help pave the way for more families across Canada to experience miracles like Adelaide's.

The Canadian Institutes of Health Research marked the launch of National Organ and Tissue Donor Awareness Week with the announcement of the Canadian National Transplant Research Program. The program is designed to increase organ and tissue donation in Canada and enhance the survival and quality of life of Canadians who receive transplants.

West, a researcher at the Faculty of Medicine & Dentistry and the cardiologist who first treated Adelaide and helped prepare her for transplant, will lead the program. Several other U of A researchers are also part of this national research network. James Shapiro will lead a project on "Ex vivo organ transplant protection and repair," Atul Humar leads one called "Viral pathogenesis in transplantation: prediction,



discovery and optimization of risk," and Tim Caulfield heads a project called "Ethical, economic, legal and social (EELS) issues in transplantation.

The program brings together 105 investigators and 86 collaborators from across the country to carry out research and develop resources to help Canadian transplant patients and those waiting for tissue or organ transplants.

"This is a unique in-

itiative," said West. "We've never had a transplant-specific program with the potential to affect the lives of so many people suffering from malignancies and end-stage organ failure. The impact of transplantation as a field to Canadians with severe and chronic diseases is enormous."

That potential is borne out in the statistics: 4,500 Canadians are on waiting lists for organ transplants and many of these people will die before receiving one. In 2010, for example, nearly one-quarter of candidates for heart and liver transplants died without receiving transplant surgeries. In addition, 40% of patients with leukemia or other bloodrelated diseases were without bone-marrow donors.

The economic impact of transplantation is also extraordinary. For example, every kidney transplant performed saves the health system more than \$60,000 per year.

The new program will transform the field of transplantation by addressing barriers to donation, therefore increasing the number of available organs, improving the quality and viability of donated organs and grafts, and improving long-term survival and quality of life among transplant patients. It is the first program in the world to unite and integrate the research

communities related to solid organ transplants, bone marrow transplants, and donation and critical care in a national research endeavour.

**6** We've never had a transplant-specific program with the potential to affect the lives of so many people suffering from malignancies and endstage organ failure."

Lori West

West noted that the CIHR panel that provided peer review for the proposal called the program uniquely Canadian, an innovative approach to enhancing a national transplant system that would be difficult to achieve anywhere else. "One of the key strengths of this proposal is that every part of Canadainvolving different researchers, sociologic fields, emerging researchers and established researchers—is a part of this consortium," the review stated. "It would be difficult to gather such an accomplished and collegial group of people in any other country. The program represents an innovative approach to enhancing a national transplant system and is truly original."

The Canadian National Transplant Research Program will receive more than \$23 million in funding. This includes \$13.85 million from CIHR in partnership with Canadian Blood Services, Canadian Liver Foundation, Cystic Fibrosis Canada, Fonds de recherche du Québec - Santé, Genome British Columbia and the Kidney Foundation of Canada. The program has raised an additional \$10 million from other partners including industry, transplant centres, other universities and organ procurement organizations from across the country

The funding was announced in Ottawa by Leona Aglukkaq, federal minister of health. Hélène Campbell, a double-lung-transplant recipient who has appeared on The Ellen DeGeneres Show to raise awareness about organ donation, was also on hand for the announcement.

## U of A engineers fly high at APEGA Summit Awards

ne of the exercises mechanical engineering professor Marc Secanell Gallart assigns to students in an energy conversion course he teaches is to calculate the difference in cost between a gigajoule of gasoline and a gigajoule of natural gas

What they quickly discover is gasoline is five times as expensive. He explains that by converting Alberta's ample natural gas resources to hydrogen, greenhouse gas emissions would drop and profits would rise dramatically. "We could multiply revenues five times," he said.

In a province where the conversation seems to be trained solely on energy, Secanell Gallart says he champions alternatives whenever he can.

'The best science comes from curiosity and exploring the things that interest you and the things you're passionate about," said

Secanell Gallart, who was joined by fellow University of Alberta engineers Suzanne Kresta and Steve Hrudey in being honoured during the Association of Professional Engineers and Geoscientists of Alberta (APEGA) 2013 Summit Awards April 19. "Working for the right reasons has its own rewards."

Secanell Gallart, who has quickly made a name for himself in the area of polymeric electrolyte fuel cells after joining the Department of Mechanical Engineering in 2009, won in the category of early achievement, which is presented to engineers under 35 for leadership in their profession.

Working with industry partners across the country, Secanell Gallart and his research team model and test fuel cells, creating software to optimize their design and manufac ture to make them more affordable.

He's also the faculty supervisor of the U of A Eco-Car Team, a

student group that has designed and built a zero-emission car that runs on a hydrogen fuel cell. Secanell Gallart says he enjoys being in a position to diversify Alberta's energy



Suzanne Kresta

"If people are trying to do something different, I like to encourage that," he said. "I try to help them and encourage the use of fuel cells in this province.

Kresta, a professor in the Department of Chemical and Materials Engineering, took home her ninth teaching-related honour in accepting the APEGA Excellence in Education Award. The award is also Kresta's second APEGA nod, the first being an Early Accomplishment Award.

Kresta says she sees the opportunity to inspire her students as a privilege. She says her success in the classroom stems from taking the time to learn how her students understand concepts, adjusting her teaching to meet their needs.

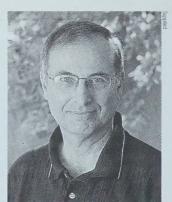
For instance, in one of her classes Kresta asked the students to review and comment on the course material. One student proposed going to 'play' in her lab. Hesitant to give the students even more work, including a lab report, she designed a two-hour demonstration where her students got to mix, learn and play. She says this hands-on experience enriches undergraduate learning.

"APEGA makes us professors feel like rock stars," said Kresta, who is on sabbatical teaching in Brazil and Italy. "They make us feel special and appreciated for our work.

Hrudey, a professor emeritus in analytical and environmental toxicology in the Faculty of Medicine & Dentistry, won APEGA's research excellence award, which recognizes professionals in academia or industry who have conducted innovative research in engineering or geoscience.

Hrudey moved from the Faculty of Engineering to the Faculty of Medicine in 1988, finding that, for many environmental engineering problems, the identification stage was left largely to other disciplines There he created and led an applied environmental health sciences program dedicated to research that explores environmental risk with the potential to better inform environmental engineering practice and public policy

Hrudey, who has become a world-renowned expert on water toxicology and an inte-gral part of the U of A's Water Initiative, spent 13 years as a



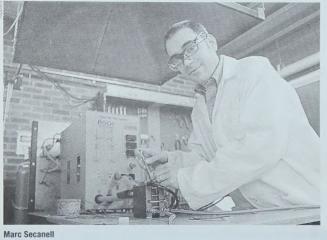
Steve Hrudey

cabinet-appointed member of the Alberta Environmental Appeals Board, the last four as chair, and was the first non lawyer to hold this

Hrudey has served on a number of high-profile national and international expert panels, including the Research Advisory Panel to the Walkerton Inquiry (2000-2002), the Expert Advisory Panel on Water Quality for Washington, D.C. and has also served as chair of the Royal Society of Canada Expert Panel on Environmental and Health Impacts of Canada's Oil Sands Industry (2009-2010).

Hrudey, along with colleague Xing-Fang Li, was recently asked to lead the U of A team participating in a multi-centre study investigating the formation of nitrosamines in some 36 water treatment plants in Canada and the United States. Nitrosamines are a class of carcinogenic compounds that may be produced in trace concentrations by disinfecting drinking water.

with notes from Richard Cairney, Nicole Basaraba and the APEGA website.



University of Alberta | folio May 3, 2013 |

## Sustainability award winner helps Campus Saint-Jean go 'vert'

Michael Brown

Then Mathieu Trépanier was hired to work in external affairs at Campus Saint-Jean six-and-a-half years ago, sustainability at the University of Alberta existed in pockets brimming with ideas, but what it needed were

Trépanier has proven to be one of those leaders. He was awarded the 2013 Sustainability Leadership Award April 22 for his work promoting sustainable development and the environment.

"When I started, working towards sustainability seemed just the right thing to do," he said. "Now it's growing, and that's great to see."

The year before Trépanier's arrival at the U of A, a sustainability club formed at CSJ called Campus Vert (Green Campus), which created a community garden, but it had more

"As a faculty, we are small, and so things move fast. We thought, maybe we can be an example for the U of A community in the area of sustainability. Our dean, Marc Arnal, was very supportive. He said, 'let's go, let's do these types of things."

"He has an academic vision, which is more about producing citizens, and so the environment and sustainability was an important



Mathieu Trépanier

part of that. When we came with ideas, it was all part of his idea of citizenship."

The first move was to hire a student to give Campus Vert the support it needed. He then helped form, and then presided over, CSJ's sustainability committee, which brought together the dean, faculty, staff and students to chart a path to sustainability. One of the committee's earliest goals was finding ways to become a carbon-neutral campus.

Trépanier provided leadership for what became CSJ's Projet Carbon Neutre (Zero Carbon Project) to bring CSJ's carbon emissions to zero. The project included an action plan aimed at measuring CSJ 's footprint, reducing those emissions and purchasing offsets.

"What has been great about that project is it has made us understand, in a scientific way, where our emissions are going, so we could move forward and propose projects," he said.

CSJ's example of quick decision making and fast action didn't go unnoticed. In 2009, the university created the Office of Sustainability to help centralize sustainability on campus and create efficiency.

"They can move really fast," said Trépanier. "The Office of Sustainability has made a lot of progress, and its people and programs are great."

One such program is the Sustainability Enhancement Fund, which provides seed money to launch innovative sustainability programs across campus. Trépanier used a 2012 grant to buy 100 drying racks and 100 smart power bars in every room of the residence to see if electricity consumption in residences could be decreased and create aware ness around the need to save energy.

"What I really like about the Office of Sustainability is that they really kind of think of everybody as a whole," said Trépanier, adding that the office is adept at bringing the different campuses closer together. "Everything is really positive now, and I'm happy to see it grow over all

## **2013 Honourable Mentions**

Nikki Way, student, Faculty of ALES

Nikki Way, an undergraduate in the Environmental Studies Program, led the project to implement a farmers' market, currently running on North Campus every second week, and is the project coordinator for the university's Sustainable Food Initiative. Way has supported more than 65 Community Service Learning students by providing them with opportunities to increase sustainability on campus, resulting in the introduction of grocery items in SUBmart and efforts towards improved food labeling

#### Stephy Sylvestre, student staff, Sustain SU

Through her work as director of Sustain SU: The Students Sustainability Service for the 2012/13 academic year, Stephy Sylvestre contributed to Sustain SUs fostering a balanced sustainability mindset in all of its 60 volunteers, and to organizing sustainability events on campus, including SustainExchanges and partnering with the Office of Sustainability on the Student Sustainability Summit. She participated in sustainability policy making, such as the Students' Union's orientation, service events, and the Sustainability Operations Committee.

## Sustainability in the works

The various actions that arose from Trépanier's work, and which and are still in progress, include:

- · a program to shut down all computers at 10 p.m.
- recto-verso printing by default on all printers and photocopiers
- recycled paper in all the printers and photocopiers
- the use of reusable plates, bowls, cutlery, etc. in CSJ's cafeteria
- a carpooling program
- a compost program in the community garden and in CSJ's cafeteria
- a limit to the number of photocopies used by professors for courses
- the promotion of without-paper teaching
- an offset program for air travel by the dean and recruitment team
- a cleaning excursion in Mill Creek Ravine

## Students 'Occupy the Gallery' for artful cause

Michael Davies-Venn

Trom the peace sign popularized during the tumultuous '60s to more recent iconic images from the Idle No More and Occupy protest movements, symbols can represent both forms of oppression and expressions of hope. Now, a University of Alberta researcher and 40 students are using art to examine the power of such symbols.

"I've asked students to use symbols and symbolic language to produce art, to use art as a type of laboratory to do social science research," says Michael MacDonald, who teaches in the Department of Music and the Department of Modern Languages and Cultural Studies at the U of A.

The result is Occupy the Gallery, a multimedia exhibition of his students' work that was recently on display at the Art Gallery of Alberta.

MacDonald says the project helped students contribute to discussions about the use of symbols to transform societies and understand the role of art.

Erin Hunt, one of the students, peered through her camera lens to capture Elemental Beauty, a piece that illustrates nature's power and the need to protect it—a duty she says should not be exclusive to Aboriginal people. Her childhood experiences provided a connection with the environmental issues the Idle No More movement raised.

"Growing up, I was never inside for more than I needed to be, to eat, sleep and wash. We lived beside the Laurier off-leash park, and there was a huge garden in our yard with seven-foot-tall cornstalks. We would just run through them and pull corn off, eating straight from the garden," Hunt says. "I'm challenging people to take a look at their own relationship with the Earth, to see if they can make the kind of commitments to the Earth I have on the piece, to respect and protect mother Earth."

In Past... Present... Future?, another student, Svitlana Panenko, continues the theme of universal responsibility for the planet. She says her piece, which portrays destitution and hope using a similar medium, shows the complexities of Idle No More.

"The images are gray and depict deserted streets. There are no signs of life. I juxtapose that with optimistic and warm texts that urge us to keep our community clean, reminding us that children are our future and



Mohamad Mahfouz's video "The Promised Land" is among the student pieces on display at the Art Gallery of Alberta.

that a healthy community is a healthy future for them and the entire community.'

Mohamad Mahfouz's video piece, The Promised Land, provoked emotional responses from some gallery patrons, which he finds humbling. His piece draws

'When I watched it after installation, I had goosebumps," he says. "In Lebanon we have a sense of connection with the land and what it means to us. The piece was my interpretation of what land means to me I sympathize with Aboriginal people; they had a lot of promises that were unfulfilled, and land, being one of the most precious prizes, was robbed from them

This is the first time U of A students have exhibited at the AGA—a partnership that MacDonald says will strengthen the university's community connections and enrich undergraduate education.

I hear people talk about what happens in the 'real world' in a way that does not recognize that the university plays an important role. We're an intellectual institution, and it's the job of the university, students and faculty to engage in public discourse at public spaces for the public good," MacDonald says

"One important thing we've done now is develop a relationship with the AGA so that students can produce work that can be publicly displayed, which gets students' work off campus and puts it in a space where the community can access it." In

## Writing the story of Céline, Shania

Lana Cuthbertson

hat turns a song into a hit? That age-old question inspired Janine Stockford, a graduate student studying ethnomusicology at the University of Ablerta, to delve into why the music of Canadian musicians Céline Dion and Shania Twain became internationally celebrated.

Her research won her a Social Sciences and Humanities Research Council (SSHRC) Storytellers award, which challenged entrants to describe how research happening at their institution impacts the lives of Canadians.

"I have always been fascinated by what makes certain music more popular than other music. There are not, and probably never will be, any clear-cut answers to this question. Perhaps the sheer mystery of it is the reason why I find it so intriguing," Stockford said.

Stockford is one of 25 post-secondary students from across Canada to win a Storytellers award, a prize worth \$3,000.

Stockford hypothesizes that there are two key factors to the female musicians' success: their ability to rouse audiences' emotions, and their "openness to exploring other cultures through music.'

Celine has sung not just in English and French but also in Spanish, Mandarin, Japanese ... the list goes on. Shania has aligned herself not just with the country music genre but also with pop and even world music," Stockford said.



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## news [shorts]

folio presents a sample of some of the stories that recently appeared on the ualberta.ca news page. To read more, go to www.news.ualberta.ca.

### Study shows no benefit to common palliative practice

End-of-life patients typically struggle with constipation caused by the narcotics they are given to alleviate their pain, so doctors prescribe a stool softener called docusate twice a day to alleviate this uncomfortable problem. But new medical research from the University of Alberta shows this practice isn't effective in dealing with constipation in palliative-care

Faculty of Medicine & Dentistry researchers Rick Spooner, Olga Szafran, Yoko Tarumi and Mitchell Wilson recently published their findings in the peer-reviewed Journal of Pain and Symptom Management. Spooner and Szafran both work in the Department of Family Medicine, Tarumi works in the Department of Oncology and Wilson is a current medical student.

Spooner says similar evidence published years ago suggested that patients in long-term care facilities didn't benefit from stool softeners, so many such facilities abandoned the practice. Spooner and his colleagues wanted to know whether the situation was similar for palliative-care

"No one ever questioned the effectiveness of administering docusate to palliative-care patients," says Spooner. "Our research demonstrated there was no effectiveness to the practice. How many other things are we com monly doing in palliative medical practice where we are going on belief and tradition, instead of evidence?"

Szafran noted their research showed no difference in stool frequency or volume between palliative-care patients who received the stool softeners and those who didn't.

In total, 74 patients took part in the 10-day randomized, double-blind, placebo-controlled trial in palliative-care settings in Edmonton

Docusate pills are large and can be difficult to swallow, so making gravely ill patients take awkward and ineffective medication that doesn't improve their quality of life doesn't make sense, says Spooner. Because nurses have to administer the medication, reducing or stopping use of the stool softener could also mean time and cost savings for the health-care system.

The research was funded by a Janus Research Grant through the Research and Education Foundation of the College of Family Physicians of Canada. Research funding was also provided by the Covenant Health Research Trust Fund.

#### Engineers wins \$20,000 for cardiac care device

Mechanical engineering PhD student Naga Siva Kumar Gunda and teammate Naresh Miriyala, a PhD student in materials engineering, have developed a biomedical device called Cardio Chip.

A team of engineering students has won \$20,000 in the TEC Venture Prize Business Plan Competition with plans to commercialize new technology that could have huge impacts on cardiac care.

Gunda leads a team (MyoNexus Diagnostics Inc.) that has developed a diagnostic tool that can predict heart attacks. Gunda developed the device while working on his PhD, under the supervision of mechanical engineering professor Sushanta Mitra.

The prize money will enable us to build prototypes for clinical trials," said Gunda. "These studies will help us in optimizing the performance of the device, and we hope to attract investors to raise funds for the start up.

Called the Cardio Chip, device is a microfluidic chip that detects the presence of three cardiac markers in a person's blood that are associated with heart attacks. Heart attacks occur in varying intensities and can build up slowly. In the build-up stage, the body produces more blood-borne markers that signal a heart attack is imminent.

Presently, patients in hospital emergency rooms are tested for these markers but the Cardio Chip will allow at-risk individuals to run the test in their own homes to see if they are about to have a heart attack. The test works in seconds—if the blood markers are present, the chip changes colour.

"This would eliminate a lot of the time and costs associated with emergency room visits," said Gunda, adding that the device requires no medical expertise to be used. Potential markets for the Cardio Chip are emergency rooms, ambulances, nursing homes and private homes, he says.

#### Students create an award-winning computer game

A computer game that challenges players to get an astronaut and his downed spacecraft off an uncharted planet was the big winner at the fifth annual U of A game development awards.

The game, titled Morph, put together by six students in the U of A's Computing Science 250 course, won Game of the Year honours.

The winning students, who go by the name Team Platypus, are a multidisciplinary group representing the U of A's art and design, engineering, and computing science departments.

Team member Cindy Chen, an industrial design student, says the multidisciplinary makeup of the team is what the real world of designing a virtual world is all about.

"I helped conceive the overall look of the game—the planet, the astronaut's spacecraft, everything the player sees," said Chen.

BioWare, the Edmonton-based gaming giant founded by U of A alumni Ray Muzyka and Greg Zeschuk, provides the platform from its multi-award-winning game Neverwinter Nights for the CMPUT 250 design competition.

Love of discovery separates PhD student from the pack

Janet Harvey

aniel Prins, a biochemistry PhD student at the University of Alberta, has won a Frederick Banting and Charles Best Canada Graduate Scholarship from the Canadian Institutes of

The scholarship provides special recognition and support to students pursuing doctoral degrees in a health-related field in Canada. CIHR receives many applications from students across the country for these wards. Prins was the top ranked of 852 applicants

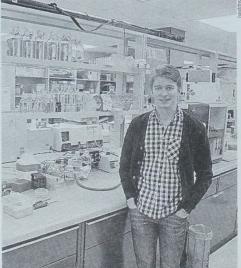
Working in the lab of Marek Michalak, Prins studies a delicately balanced process called store-operated calcium entry, which has been implicated in a variety of diseases. A deficiency in the process leads to severe combined immunodeficiency—an immune system that doesn't function. When the process is overactive it can contribute to breast cancer metastasis—the spreading of cancer cells from the site of the initial tumour to other tissues throughout the body.

Prins examines how the process is controlled at a basic molecular level. The hope is that some understanding of the process's fundamentals might eventually result in an ability to control the pathway, with an eye to developing a drug treatment to inhibit breast cancer's ability to spread.

**£** It's rewarding to see strong support at the national level for students who are conducting the basic research that can make such a difference to future health care."

Marek Michalak

"That's obviously very big picture, and we're just looking at a very small part of that, but you have to start somewhere," explains Prins. "It is very important to start with a basic scientific understanding of the principles of how these pathways work. It will also allow me and other scientists to ask better questions in the



Daniel Prins topped a list of 852 applicants for a doctoral scholarship from the Canadian Institutes of Health Research.

future about how we can control cancer. Basic research is a building block that can help clinicians treat disease more effectively."

This type of discovery-based research is what first attracted Prins to Michalak's lab as a summer student in 2007 and what motivates him to continue his work. "This is such an outstanding lab to work in, with an excellent supervisor and great people. Right from the start, I just loved being around people who were asking all these questions that no one knew the answer to. I really enjoy the discovery aspect of research. Seeing something true about the world that nobody has ever known before you figure it out—that's a really great feeling."

Michalak says this love of discovery is one of the characteristics that makes Prins such a strong student. "We are very lucky to have Daniel here at the U of A," said the vice-dean of research in the Faculty of Medicine & Dentistry and winner of the 2012 University Cup, the U of A's highest academic honour. "My philosophy is that when I feel my students know more than I do, then it's time for them to graduate and move on. Daniel is getting there almost before his time. It's rewarding to see strong support at the national level for students who are conducting the basic research that can make such a difference to future health care."

PhD student's work on MS pain moves from lab to clinic

Raquel Maurier

esearchers with the Faculty of Medicine & Dentistry have found that pain medication administered to lab models suffering from multiple sclerosis (MS) can also reverse cognitive impairment associated with pain, such as recognizing objects.

PhD student Camille Olechowski and her supervisor, Bradley Kerr, conducted the study earlier this year, and now the general concepts she researched are being examined in a pilot study at the local MS clinic.

Olechowski, renowned MS researcher Fabrizio Giuliani, and pain and anesthesiology researcher Bruce Dick, launched a pilot study to further additional MS research.

"We wanted to see if the basic science knowledge we gained in the lab could translate into helping people with MS," says Olechowski. "We want to find out if what we saw in the lab models is the same in MS patients.

Pain and cognitive problems are two key concerns in MS, but this was one of the first research studies to officially link the two in a lab model study. Dick says there are many factors associated with poorer cognitive function, such as sleep disruption. "We want to find out how it all fits. And when patients' pain gets worse or plateaus, how does their quality of life change?'

Giuliani, who is also the director of the MS clinic, said physicians at the clinic currently don't measure quantity of pain; they simply use different medications to try to treat the issue. If one pain medication doesn't work, they try others. He adds pain is a common complaint from patients, all of whom have individual pain thresholds.

"As a clinician, if we can learn something from this study that will help patients, it would be good for everyone—the patients would benefit, as would their families, and doctors would benefit as well. This is something we want to doto be a translational clinic, where we can translate findings from basic science to help patients.'



Fabrizio Giuliani

Olechowski is a medical researcher with the U of A's Centre for Neuroscience, while Giuliani works in the Department of Medicine, the Department of Psychiatry and the Centre for Neuroscience. Dick is a researcher in the Department of Anesthesiology and Pain Medicine, the Department of Psychiatry, the Department of Pediatrics and the Centre for Neuroscience The paper was published in Experimental Neurology.

## Students get up-close look at rural health care

ye-opening" is the first word that came to mind → when Shu Juan Zhou reflected on her experi-✓ ence at the rural clinical skills day hosted by the Alberta Rural Physician Action Plan in Westlock, Alberta.

For the first time, physical therapy students, including Zhou, joined medical and nursing students from the University of Alberta on April 20 and 21 to gain hands-on experience and a new perspective on what it would be like to work in a rural community.

**11** This trip allows students to experience firsthand the level of collaboration required of rural health-care professionals."

Bernadette Martin

"We got to go for a tour, which included a visit to the Westlock Hospital, a community dinner and even a trip to the local tractor museum," said Zhou, a second-year physical therapy student from the Faculty of Rehabilitation Medicine. "I'm very grateful to RPAP for the experience."

While at the Westlock Hospital, students were given several practice scenarios to tackle as a team, including cardiac emergency care, suturing, making casts and delivering a "baby."

"I love that we had a range of scenarios to work through with students from different disciplines," said Zhou. "It was interesting to see how other health-care professionals would respond to a scenario, compared to how I would. We all worked together to manage the patient's needs; what a great team-building experience!'

RPAP has been hosting rural skills days for medical students in Alberta since 2004; nursing students were included for the first time in 2012. "By liaising with community groups, local area health-care facilities and Alberta Health Services, RPAP is able to provide hundreds of students every year a chance to experience real-world skills development in a rural community, which, for many, is their first experience outside an urban centre," said executive director David Kay.

The interdisciplinary aspect of this program is what led to the inclusion of physical therapy students in Westlock. "This trip allows students to experience first-hand the level of collaboration required of rural health-care professionals," explained Bernadette Martin, associate chair of the Department of Physical Therapy.

In addition to meeting other participants from different faculties, students took the time to network and get their questions answered by local professionals.



(From left) Students Mahsa Kamali, Vanessa Lam and Lynn Unterschultz ne their cast-making skills

Zhou got to hear the benefits first-hand from local physiotherapist Murray Tuininga. "He explained that medical practitioners in rural communities tend have a broader range of caseloads," she said. "I think I would like this because I always like a challenge and helping patients learn more about their health."

After this experience, Zhou—a self-proclaimed "city gal"—says she's open to working in Westlock following graduation. "If the opportunity came up, I would definitely consider it."

# talks & events

Talks & Events listings do not accept submissions via fax, mail, email or phone. Please enter events you'd like to appear in folio and at www.news.ualberta.ca/e A more comprehensive list of events is available online at www.events.ualberta.ca. Deadline: noon one week prior to publication. Entries will be edited for style and length.

### **UNTIL JUNE 29**

U of A Museums present SIZE MATTERS: Big Prints From Around the World. From miniature to monolithic, artists have been playing with scale for thousands of years. SIZE MATTERS features the work of contemporary printmakers working in media as diverse as woodcuts and digital prints on fabric—from Canada, the United States, Finland, Japan and beyond, who all have one thing in common: they like to think big. Enterprise Square.

#### **UNTIL MAY 31**

Miriam Green Ellis, Champion of the West. This exhibition introduces the work of pioneer woman journalist of Western Canada, Miriam Green Ellis (1879-1964). Through a sampling of the rich (1879-1964). Inrough a sampling of the rich diversity of the collection of published newspaper articles, photographs, coloured glass slides, manuscripts, diaries and letters she bequeathed to the University of Alberta, the exhibition invites you to see the way we were as Westerners almost a century and Bruce Peal Special Collections Library. century ago. Bruce Peel Special Collections Library, Rutherford South.

Object Lessons: Exploration in Culture, Practice and Material Forms. Explore the rich world of material culture studies, in a day of thematic workshops directed at the close study of objects and material lives. Participants choose from three of six workshops to attend over the course of the day, with lunch and coffee breaks between. Each workshop holds a maximum of 16 participants. Workshops are scheduled twice during the day. Workshop spaces are limited and registration is on a first come, first served basis. www.materialculture.ualberta.ca. 8:30-4:30 p.m. Human Ecology Building.

### MAY 8

TLS Concept and Course Design Series: Instructional Strategies for Learning. This workshop will expose participants to different instruc-tional strategies, foster an appreciation of contextual factors in instructional strategy choice and highlight the importance of aligning instructional activities with learning objectives. To register go to ctl.ualberta.ca. 10:30 a.m.—noon. 2-420 ECHA.

Oil and Engaging Alberta Communities: Jorge Sousa and Roger Epp. Part of the Oil and Social Economy Speaker Series – a collaborative event between Community Service-Learning (CSL) and the Parkland Institute. 7–9 p.m. 1-001 NREF.

#### Canada Excellence Research Chairs

Presentations. Some of Canada's greatest minds will be on hand to share key developments and the latest discoveries in their respective research programs. 8:30 a.m.-4:45 p.m. 2-001 NREF. Visit www.research.ualberta.ca/CERC for speaker times and details.

Physical Activity to Promote Brain Health. Teresa Figure 1. Activity to Promote Brain Health. Teresa Liu-Ambrose, associate professor in the Department of Physical Therapy at the University of British Columbia and director of the Aging, Mobility and Cognitive Neuroscience Laboratory, will be on hand to speak on the topic of Physical Activity to Promote Pagin Health, Her presentation will focus Promote Brain Health. Her presentation will focus on the major findings to date in the area of exercise neuroscience, and will help practitioners and others to gain an appreciation of the important role of exercise in promoting brain health, as people age. To register go to www.karelo.com. 8:30 a.m.—noon. Lister Conference Centre.

#### **MAY 15**

TLS Concept and Course Design Series: Assessing Student Learning. This workshop will explain constructive alignment between course objectives, content, learning activities and assess ment practices. Participants will learn about the purposes of assessment and will begin planning for assessment, taking into account characteristics of assessment. To register go to www.ctl.ualberta.ca. 10:30 a.m. –noon. 2-420 ECHA.

#### MAY 15-23

In Jacob Washington, and the last Days of Judas Iscariot. The jury is out in this riotously funny, coarse and colourful play by Stephen Adly Guirgis that imagines a trial of God and the Kingdom of Heaven and Earth versus Judas Iscariot for the betrayal of his homey, Lord Jesus Christ. In a gritty courtroom, between Heaven and Hell, a host of iconic figures, from Mother Theresa, to Sigmund

Freud to Satan, are called to testify and weigh in on the epic debate between divine mercy and human free will. Not simply about one man's guilt, The Last Days of Judas Iscariot asks us to re-examine who is in the most need of forgiveness. Between Heaven and Hell" there is another place. This place: Hope. Hope is located right over here in downtown Purgatory. Timms Theatre for the Arts.

Department of Medicine Research Day, Research Day is the Department of Medicine's annual event, which consists of oral presentations from Graduate Students, Residents and Post Doctoral Fellows throughout the day, as well as poster presentations. 8 a.m.—5 p.m. John W. Scott Library of the Walter MacKenzie Center.

Immigration and Employment: Jason Foster, Bob Barnetson, Doug Piquette. Part of the Oil and Social Economy Speaker Series—a collaborative event between Community Service-Learning and the Parkland Institute. 7-9 p.m. 1-001 NREF

Wildflowers of Banff Park – A four-season multimedia presentation. This colourful show presented by Ian Wilson and Jacinthe Lavoie, authors of Wildflowers of Banff Park, features the best trails for wildflowers in Banff Park. Five themes are set to music—from bold blossoms to diminutive gems, wild creatures enjoying flowers, majestic mountain scenery, and autumn colours. RSVP to levert@ualberta.ca. 7:30–9 p.m. Campus Saint-Jean Grand Salon.

## classified ads

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## RICHARD SIEMENS







BackPage



The Office of Sustainability held its second Eco Move Out between April 17 and May 3. This year's installment, which included Augustana and Campus Saint-Jean residences, allows students to demonstrate sound environmental stewardship by donating their couches, chairs, electronics and other goods to partner community organizations that will find them a loving second home. It also keeps a sizable chunk of these recyclable materials out of local landfills.